Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
	)	GN Docket No. 17-183
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz	)	(Inquiry Terminated as to 3.7-4.2 GHz)
	)	
	)	RM-11791
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band	)	
	)	RM-11778
Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service	)	

COMMENTS OF LINKUP COMMUNICATIONS CORPORATION

Linkup Communications Corporation submits these comments in response to the above-captioned Notice of Proposed Rulemaking ("NPRM") in which the Federal Communications Commission solicits feedback on proposals to permit terrestrial mobile use of the 3700-4200 MHz band (the "C-band").[1] We have three primary goals in submitting these comments: (1) make perfectly clear that the C-band content distribution services provided by satellite operators are essential to our business and the ministries of the many broadcast operations we support; (2) support the market-based approach of Intelsat License LLC, SES Americom, Inc., and Intel

[1] *Expanding Flexible Use of the 3.7-4.2 GHz Band*, Order and Notice of Proposed Rulemaking, GN Docket No. 18-122, FCC 18-91 (rel. July 13, 2018).

Corporation proposed in the NPRM to allow terrestrial mobile use of the C-band;[2] and (3) oppose new fixed point-to-multipoint ("P2MP") services in the C-band and associated proposed limits on full-band, full-arc protection for satellite earth stations.

Our organization makes it possible for broadcast radio ministries to provide reliable broadcast content to hundreds of local communities. C-band is the only cost effective and reliable transmission for content delivery that is sufficient for the 99.99% reliability that broadcasters require to serve their communities. We provide all of the components for the broadcast ministries to be a reliable daily component in their listeners lives. Listeners have little patience for radio stations that are not reliable. All other technologies suggested in recent comments of and to the commission, other than C-band, are unreliable - leading listeners to switch stations when transmissions fail.

There is no better example of the importance of broadcasting and C-band than what we in the Florida Panhandle experienced following landfall of Hurricane Michael, October 10, 2018. The Category 4 storm came ashore quickly and with furor, quickly knocking out terrestrial and wireless communications. It has been more than two weeks since the storm devastated the region and Verizon's fiber is still damaged, it's cellular data limited. Cell phone coverage is only now improving. For nearly two weeks Verizon has not been able to make phone connections function reliably, much less 3G or 4G.

In the aftermath of the hurricane, broadcasting was the only means that government and the public had to communicate with one another. Though Hurricane Michael negatively affected the ability of both local radio and television to broadcast over the airwaves, IHeart Panama City

[2] *See* NPRM ¶¶ 66-97.

managed to get 4 stations back on the air shortly after the storm. Those radio stations use C-band satellite to make it more economical to operate under normal circumstances.

The next morning the IHeart stations were live, providing critical communications and information around the clock. Most people in the region had no power for nearly 2 weeks, but they did have battery-operated radios. Without radio, there would have been a dangerous information void; the community would have suffered. And radio depends on C-band to be profitable. Without C-band content delivery for broadcasting, will there be local radio stations in these communities when disasters strike?

Thus, C-band forms the backbone of the infrastructure content ministries and companies use to supply listeners across the country with premium audio programming. Any change in the current C-band operating environment could not only negatively affect our business[3], the ministries we work so hard to serve and the listeners that these ministries serve on a daily basis. Faith-based radio is completely dependent on C-band for content distribution. These ministries serve almost every community in the US and its territories. Reliable C-band content distribution makes it economical to serve the listeners. The loss of this distribution method would lead to an equation where more costly, yet less reliable, methods of delivery would need to be incorporated, making it unlikely that these radio ministries could afford to continue serving a majority of these communities.

C-band offers reliability, quality and cost efficiency that cannot be matched by other technologies or in other satellite spectrum. It has been suggested in several comments to the commission that terrestrial solutions (i.e fiber) could replace C-band for broadcast content

[3] Indeed, our industry has made substantial investments in C-band facilities to expand and update our distribution networks to ensure that all Americans have access to high quality content.

delivery. This suggestion comes from a place of ignorance of the "on the ground" situation. Most of these C-band downlinks are at remote transmitter sites, miles from the nearest fiber demarcation. Even in mid to major markets, the downlinks are far enough away from the current fiber that the cost of running fiber to the location is worth more than the sales price of the radio station. Additionally, fiber would place a operational monthly financial burden on the radio stations; a burden that does not currently apply with C-band distribution.

It has also been suggested that Ku-band is a potential replacement for C-band distribution; a concept in which our experience says otherwise. Few companies understand Ku-band distribution like we do at Linkup Communications Corporation. We have built dozens of Ku-band networks, with hundreds of downlinks. The typical Ku-band downlink has over 40 hours of "rain fade" per year. This means loss of signal and loss of content distribution to a community, often when it is most critical.

We specifically use C-band for the distribution of our southern-based radio ministry networks. In fact, in the last two years we have converted 4 ministries that serve the south and midwest from less reliable Ku-band systems to more reliable C-band delivery. The proof is in the increased response from listeners. These radio ministries have invested hundreds of thousands of dollars in new C-band uplinks and downlinks. Switching away from C-band satellites would also abandon the investment LinkUp Communications Corporation and the radio ministries we serve have made in the ground stations used for content distribution.

Moreover, the record suggests that co-frequency sharing between terrestrial mobile services and satellite operations is not feasible. As the NPRM recognizes, because signals from satellites are very weak when they reach the ground, terrestrial mobile operations could cause

harmful interference to earth stations over large distances.[4] Any risk of interference to the C-band satellite services on which LinkUp Communications Corporation relies is unacceptable, not only from a business revenue perspective, but because it jeopardizes the ability of American consumers to receive the programming content they want and upon which they rely.

The proper management of the future of the C-band is critical to the continued vitality of our business. Thus, we believe that a market-based approach, led by satellite operators, is the only practical solution for introducing terrestrial mobile operations in the C-band. Cable, systems, broadcasters and content delivery companies have been working with satellite operators for decades. We are their customers, and they understand our needs and have direct knowledge of our operations. Consequently, satellite operators are best positioned to protect our company, the radio ministries we serve and other incumbent users while also undertaking the arduous and costly task of clearing spectrum for terrestrial mobile use. We urge the Commission to move forward with the market-based solution discussed in the NPRM.[5]

Finally, the Commission should not allow new P2MP services in the C-band or restrict the protection of C-band earth stations across the full spectrum band and the visible satellite arc.[6] The flexibility to change frequencies and receive antenna orientations is essential to the value of the C-band satellite capacity on which LinkUp Communications Corporation and others rely. This flexibility allows restoration of service if an outage affects our primary space segment and facilitates the resolution of interference issues, as well as enabling us to take advantage of competition among satellite operators. The requirement to work around new P2MP facilities

---

[4] *See* NPRM ¶ 50.

[5] *See* NPRM ¶¶ 66-97.

[6] *See* NPRM ¶¶ 37-40 & 116-132.

would undermine the nationwide reach of C-band service, and the requirement to modify earth station licenses for any change in operating parameters would impose significant and unjustified regulatory burdens. LinkUp Communications Corporation urges the Commission to focus on other spectrum that is not as intensely used as the C-band to meet any requirements for additional frequencies suitable for P2MP operations.

Respectfully submitted,

LinkUp Communications Corporation

By: */s/ Mark A. Johnson & Karen R Johnson*
Founders
LINKUP COMMUNICATIONS CORPORATION
1016 Thomas Drive #313
Panama City, FL 32408

October 29, 2018